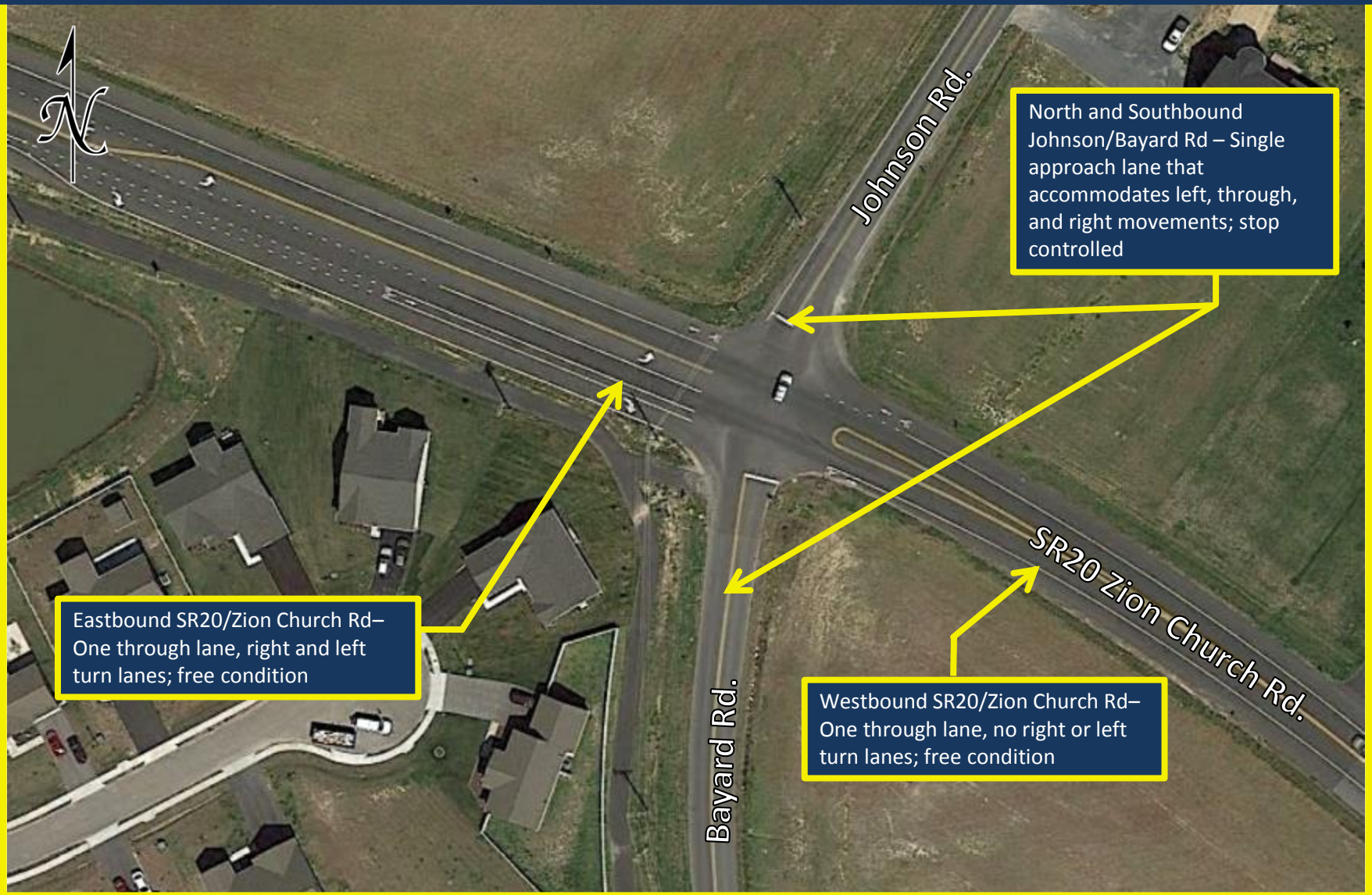
SR20 Zion Church Rd. at Johnson/Bayard Rd. – Traffic Control Device Evaluation

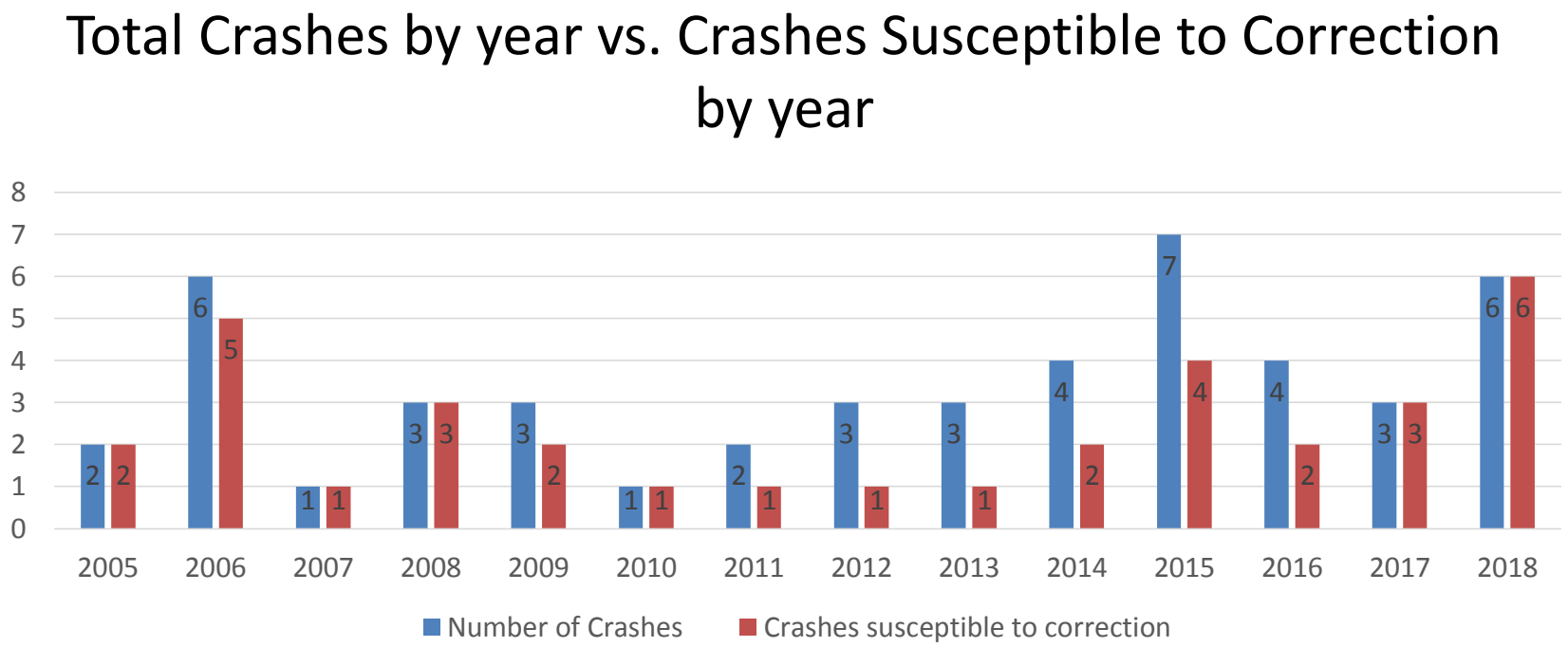
SR20 Zion Church Rd. and Johnson/Bayard Rd. – Traffic Control Device Evaluation (Existing Geometry)



SR20 Zion Church Rd. and Johnson/Bayard Rd. – Traffic Control Device Evaluation (Existing Crash Patterns and Operations)

Crash Patterns:

- Fourteen crashes between August 2015 and August 2018.
  - Five northbound Bayard Road/westbound Zion Church Road angle crashes (2 Personal Injury).
  - Four southbound Johnson Road/westbound Zion Church Road angle crashes (1 Personal Injury).
  - Three southbound Johnson Road/eastbound Zion Church Road angle crashes (1 Personal Injury).
  - Two northbound Bayard Road/eastbound angle Zion Church Road crashes (1 Personal Injury).
- Roadway was widened and turn lanes added in November 2015

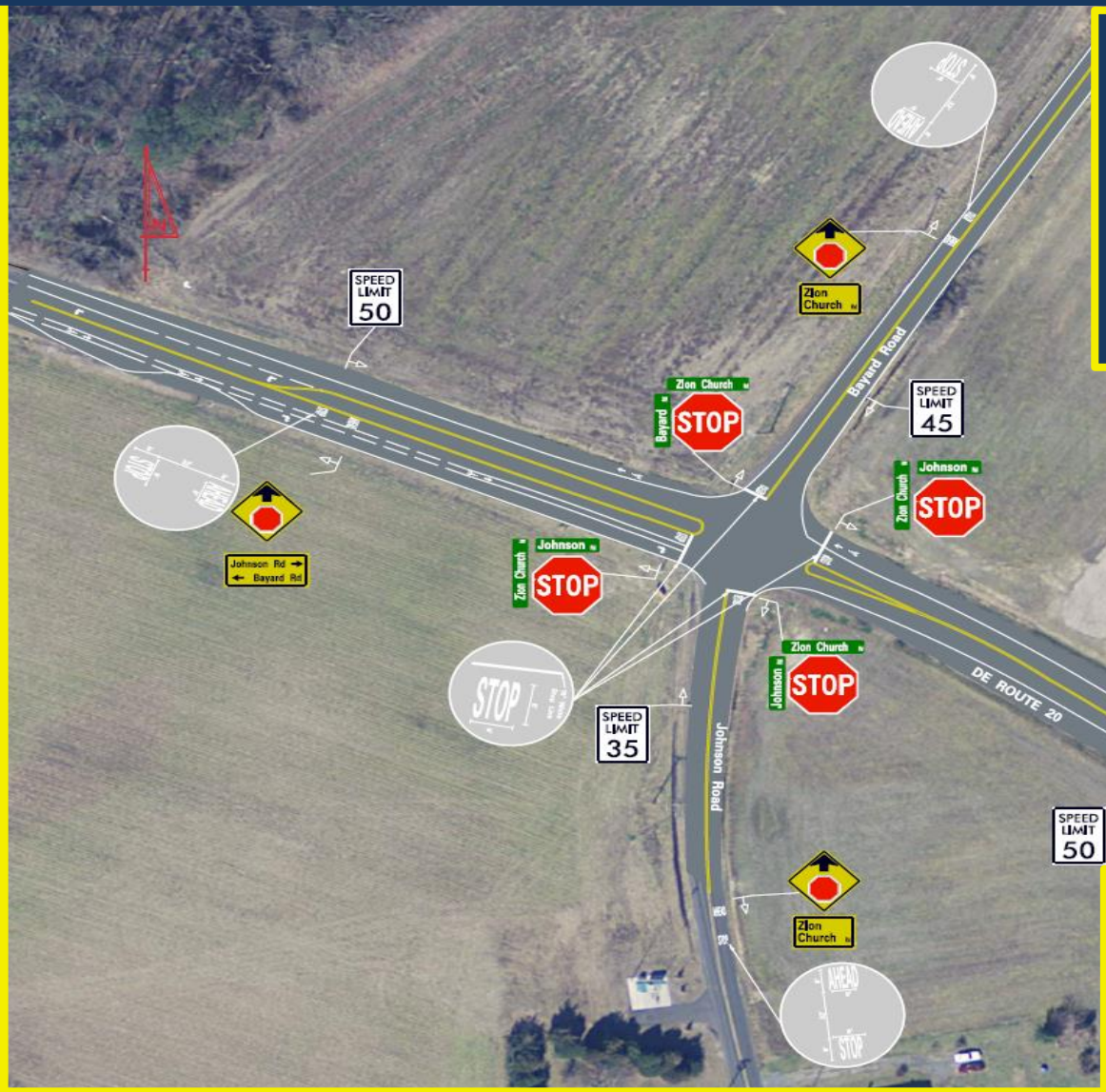


SR20 Zion Church Rd. and Johnson/Bayard Rd. – Traffic Control Device Evaluation (Existing Two-Way Stop Operations)

Intersection Operations (June 2018 Counts):

- The highest intersection delay and queue lengths are encountered during the PM Peak Hour along the north and southbound approaches with 31 second delay and 64 foot queue length and 54 second delay and 168 foot queue length respectively.
- The AM Peak Hour of 7:45-8:45 AM has the highest number of minor street left turn movements with 96 vehicles in the southbound direction compared to the off—peak hour volume of 66 vehicles from 3-4 PM.

SR20 Zion Church Rd. and Johnson/Bayard Rd. – Traffic Control Device Evaluation (Proposed Option – All Way Stop with modified lane configuration)



Operationally (June 2018 Counts):

- Average intersection delay during the AM and PM peak periods are expected to be 19 and 17 seconds of delay, respectively.
- The highest average delay would occur along eastbound SR 20 with approximately 25 seconds of delay.
- Longest expected queue would be on westbound SR 20 with approximately 150 feet

Advantages:

- An All Way Stop has the potential to correct all angle type crashes related to vehicles failing to remain stopped on northbound/southbound Johnson Road/Bayard Road.

SR20 Zion Church Rd. and Johnson/Bayard Rd. – Traffic Control Device Evaluation (Implementation Process)

1) Installation of All Way Stop would follow enhanced rollout procedure that would include:

- Press Release prior to All Way Stop conversion indicating date of installation
- Place message boards installed in the field prior to All Way Stop conversion indicating date of new traffic pattern
- Install oversized Intersection Signage (Stop signs and Stop Ahead warning signs) on all approaches
- Install STOP, STOP AHEAD, and stop bar pavement markings on all approaches
- Remove the SR 20/Zion Church Road eastbound left turn lane with pavement markings
- Install temporary flashing beacons over new Stop Signs on SR 20/Zion Church Road
- Monitor crashes for 6 months after conversion

2) Anticipated installation of All Way Stop would occur before the Summer of 2019 pending the outcome of the workshop